ADDRESSING THE LEGACY OF AGENT ORANGE IN VIETNAM

DECLARATION AND PLAN OF ACTION

U.S. – Vietnam Dialogue Group on Agent Orange/Dioxin
2010 - 2019

Second Year Report

Washington and Hanoi • May 2012

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Second Year Report

from the

U.S. – Vietnam Dialogue Group on Agent Orange/Dioxin

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Introduction

The Evolving Context for a U.S.-Vietnam Joint Effort to Address the Legacy of Agent Orange

It should not surprise us that only now, nearly 40 years after the end of hostilities, are we on the cusp of resolving one of the troubling legacies of the war between the US and Vietnam -- the lasting effects of Agent Orange and other dioxin-contaminated defoliants on people, communities and ecosystems in Vietnam. Wars leave raw political and emotional wounds. Enduring concerns are poorly understood, and by definition, former enemies lack the trust and experience of collaboration on which a new strategic partnership can be built. The Vietnam-US relationship illustrates this truth all too clearly. It most likely holds lessons for other wars about the time that must pass before painful legacies can be fully resolved.

And indeed, for decades little could be done about Agent Orange/dioxin. The science about its biological and ecological impacts was poorly understood. So was the extent of the problem; dioxin's impact on US military personnel was contentious in the United States. And litigation in US courts on behalf of those in Vietnam who believed themselves to be victims brought fresh legal battles, controversy and wariness.

But in the last five years, much has changed, in significant measure because of creative and compassionate interventions by public and private agencies. The concerns of US veterans are being addressed far more comprehensively than in past decades – though continued attention is needed. Lawsuits have slowed. The geography of the dioxin "hot spots" in Vietnam is clear[1], along with estimates of clean-up costs. A remarkable start has been made towards cleaning up the first of the three major hot spots at the Da Nang airport. Rough estimates of the number of people with disabilities that may be linked to dioxin are available. Their needs – and those of their caregivers –are better understood. The cost and complexity of clean-up and care can now be estimated based on real lived experience. The Government of Vietnam has set the year 2020 as the target for completing the work described in this report and the Government's own National Action Plan.

Perhaps most important, practical on the ground work has demonstrated that effective partnerships are possible between our two governments, and among government, civil society, and for-profit businesses to address the many dimensions of this legacy:

- Containing and destroying dioxin;
- Providing opportunities for dignified lives for people with disabilities and their caregivers;
- Restoring damaged ecosystems;
- Pursuing the basic scientific research needed to produce enduring, positive change, and;
- Raising awareness among American publics of the need, and opportunity, to resolve the Agent Orange legacy.

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[1] The 10-80 Committee/Hatfield investigations in 2003-2005 initially identified 28 potential dioxin hotspots including Da Nang, Bien Hoa and Phu Cat. Two more were added to their list during field visits. For the complete list of dioxin hotspots see pages 11-12. Load Google Earth on your computer and then download the interactive file at: http://www.aspeninstitute.org/sites/default/files/content/docs/agent-orange/2012-5-23VNDioxinhotspots.kmz

This progress would not have been possible without the bold leadership of leaders in both societies. Former Presidents Nguyen Minh Triet and George W. Bush, Secretary of State Hilary Clinton, and legislators from both countries have articulated a commitment to addressing the human costs of the dioxin legacy in partnership. Other leaders in both countries have expressed their wish to move beyond lingering war-related sensitivities. All are focused on the potential for deepening economic and strategic connections between our two countries.

Activities and Accomplishments

Preamble

The U.S.-Vietnam Dialogue Group on Agent Orange/Dioxin is a bi-national advocacy committee of private citizens, scientists and policy-makers working to draw greater attention to the Agent Orange issue and to mobilize resources. At its first meeting in February 2007 the Dialogue Group adopted a forward-looking approach to solving the Agent Orange legacy through a series of humanitarian responses undertaken cooperatively between Vietnam and the United States. On June 16, 2010 the Dialogue Group published a ten year Declaration and Plan of Action to address the continuing environmental and human consequences of Agent Orange. In July 2011 the Group released its First Year Report which summarized the activities and accomplishments since the launch of the Plan and identified the opportunities and challenges ahead. This is the Dialogue Group's Second Year Report.

Over the last 12 months, the Dialogue Group has helped attract high level attention to humanitarian responses to the Agent Orange legacy in Vietnam, communicated the urgency of this work to key groups across the United States, and supported the case for significantly larger funding from the U.S. and other sources. The following highlights exemplify the activities to which the Members of the Dialogue Group and the Aspen Institute's Agent Orange in Vietnam Program have contributed this year.

August 2011- Public Private Partnership. The Aspen Institute, Da Nang City government, Cam Le district government, Children of Vietnam and the Rockefeller Foundation create the Public Private Partnership (PPP) in Da Nang. The PPP continues a district-level rolling reform of social services for children and young adults with disabilities and is the first application of the PPP model to funding disabilities programs in Vietnam. Rockefeller provides the seed money. Hyatt Hotels becomes the first corporate contributor, later joined by HSBC Bank. . The district government in Cam Le commits to providing public resources to maintain the new approach to social service delivery. The program offers one model which can be significantly scaled up in other locations.

September 2011- Clinton Global Initiative. The 2011 Clinton Global Initiative (CGI) recognizes the Public Private Partnership in Da Nang as a commitment from the U.S Agency for International Development (USAID), the Aspen Institute, the Rockefeller Foundation, IBM, and Hyatt Hotels. The Partners commit to assistance to all people with disabilities in Vietnam, without regard to cause. The announcement at the CGI, valued at $3.0 million from USAID and $0.5 million from the private

sector, marks an unusual opportunity for governments, foundations and the private sector to collaborate and demonstrate the value of bi-national partnerships.

September 2011- Joint Advisory Committee (JAC). Dialogue Group members Dr. Nguyen Thi Ngoc Phuong and Professor Vo Quy and the Aspen Institute's Charles Bailey present the recommendations from the DG First Year Report to the 6th Annual Meeting of the official bi-national Joint Advisory Committee in Hanoi.

September 2011- Rotary International. Dialogue Group member Prof. Vo Quy, leaders of Rotary International from San Francisco and Seattle, and Charles Bailey visit Dong Son commune in A Luoi district, Thua-Thien-Hue province. Rotary Foundation agrees to provide a grant of $20,000 to complete the funding of the $70,000 Dong Son piped water project. Dong Son is the site of the A Shau airbase, a former U.S. military installation which in 1999 the 10-80 Committee of the Ministry of Health and Hatfield Consultants identified as contaminated with dioxin.

October 2011- Rotary Peace Conference. Students, Vietnamese Americans and Rotarians take part in a major conference on Agent Orange and Addressing the Legacy of the War in Vietnam at the University of California/Berkeley on October 28-29. The 160 participants cover all aspects of the Agent Orange legacy, with emphasis on "Ten Things You Can Do to Make Agent Orange History." Charles Bailey delivers the keynote address. Dialogue Group Co-chair Ambassador Ngo Quang Xuan and DG Member Dr. Nguyen Ngoc Phuong make presentations.

December 2011- FY2012 Appropriation. On December 22nd President Obama signs the Consolidated Appropriations Act, 2012 which allocates $20 million for Agent Orange in Vietnam. Of this total, $15 million is intended to complete the funding of the full remediation of the Da Nang airport dioxin hotspot, and to get a start on remediating Bien Hoa and possibly other hotspots. The balance of $5 million is for health/disabilities programs in areas of Vietnam that were targeted with Agent Orange or remain contaminated with dioxin. The language in the bill and the accompanying Senate report provide a much-improved framework, indeed a breakthrough, for a serious start on ending the Agent Orange legacy in Vietnam.

December 2011- USAID. On December 30th, USAID releases a Request for Assistance (RFA) seeking bids for a three- year program of services to people with disabilities at $3 million a year for a total of $9 million. Seventy percent of the funds are to be used for programs in Da Nang; 40 percent of the funds are to go for direct services to people with disabilities.

2011 Government of Vietnam. The Government of Vietnam commits to investing VND 28 billion (US$1.3 million) in a project at the Friendship Village to take care of people with disabilities linked with Agent Orange/dioxin. NGOs and individuals visit the village and donate a further VND 500 million (US$25,000) to this project, which also attracts much attention from high-ranking officials in Vietnam and foreign donors.

February 2012 Dialogue Group Sponsorships. Co-Chair Ambassador Ngo Quang Xuan and DG Member Dr. Nguyen Thi Ngoc Phuong deliver project support of $5,000 to Ho Chi Minh City's Orange Village and $35,000 to the Center for Rehabilitation in Bien Hoa.

March 2012 Dialogue Group Sponsorship. Co-Chair Ambassador Ngo Quang Xuan and Aspen Institute program director Charles Bailey present project support of $5,000 to Thai Binh Association of Victims of Agent Orange.

May 2012 – Rotary Foundation. Trustee Chair William Boyd and Rotarians from Australia and the U.S. travel with Dialogue Group members to Dong Son village in the A Luoi valley to inaugurate the completed piped water system. The system brings filtered fresh water into the courtyards of each of the 259 households in Dong Son.

The Opportunity - A Comprehensive Multi-Year Plan

The Government of Vietnam has set 2020 as the year to complete all major Agent Orange-related works. The next five years are thus a period of peak activity and 2012 is a key pivot year. The last five years of progress in finding and pursuing real solutions have brought us to this auspicious time: the destruction of the dioxin contaminating the soil at Da Nang airport is beginning, after joint scientific and technical review by both governments, and USAID has dramatically increased its commitment to addressing the needs of people with disabilities, without regard to the cause of those disabilities.

Most significantly, the US Congress has directed USAID to consult with the State Department, the Government of Vietnam and other interested parties to develop a comprehensive multi-year plan to address the Agent Orange/dioxin issue. The Dialogue Group believes that a comprehensive plan is one that covers all aspects of the Agent Orange legacy. The plan should be scaled to five years—long enough to show results and short enough to be realistic.

Drawing on the combined expertise and experience of its members and colleagues, the US-Vietnam Dialogue Group on Agent Orange/Dioxin offers this report as a contribution to the deliberations of those preparing this vitally important comprehensive plan.

In the pages below, we present seven key recommendations. In the more comprehensive technical annex, we offer background research and analysis to substantiate these recommendations.

We offer these suggestions in a spirit of positive and growing expectations drawing on more than a decade of trial and error and hard work. A comprehensive plan and the cooperation it represents can be a model of bi-national humanitarian effort and serve as an example of what is required to repair the damage of war to people, to nature, and to the relationships between nations. We salute all who are collaborating to heal the wounds of war.

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In the next five years—2013 to 2017— the Dialogue Group believes it is possible to substantially address three major objectives:

1. **Clean up dioxin at all remaining contaminated sites.** As the clean-up of the three major sites moves forward, the remaining locations need to be prioritized and neutralized. In all likelihood, the lower priority sites will be less technologically and financially challenging than the top three. In some, full remedial action will be required and in others, soft measures may complete the job. As additional data become available regarding possible pooling of dioxin in ponds and reservoirs, fresh prioritization may be required. In every site, the efficacy of various treatment methods will need to be analyzed and shared in the scientific community. See pages 9-12 for details.

2. **Upgrade integrated social services for people with disabilities in prioritized provinces among those targeted by Agent Orange.** Priority should be given to areas with recorded heavy spraying. Work should begin with a survey of people with disabilities. Model programs will need to be tested and significantly expanded to reach those families and individuals most in need. Program designs should emphasize comprehensive and integrated service models in which assistance is tailored to individual needs and takes into account family capacity, poverty, access to education, and vocational training where such is appropriate. Case management approaches should be encouraged to ensure that medical, emotional and cultural issues are considered and services rebalanced as needs change. The objective should be full coverage of populations in need and, to the extent possible, the promotion of independence for persons with disabilities. Health care should include prenatal information and services, a system for maternal surveillance and screening, monitoring of child development and early-childhood intervention. See pages 13-17 for details.

3. **Increase the productivity of damaged landscapes.** Training courses for forest managers, technical staff and farmers should be greatly expanded in areas with severely degraded lands. On the ground experimentation is needed to continually refine knowledge of native species and their reintroduction, the development of related markets for farmers, and appropriate livestock selection. Training and land use planning must fully draw on the knowledge of local farmers. See pages 17-19 for details.

In addition, the five year period of the plan presents the opportunity to strengthen five complementary capacities to ensure that progress is maintained.

4. **Advance disability rights.** Vietnam has signed the U.N. Convention on the Rights of People with Disabilities and approved a national law which confirms basic rights and responsibilities for people with disabilities. Emphasis should now be given to implementation of the law and encouragement of the voice and active leadership from people with disabilities (PWDs) themselves. Employers should be strongly encouraged to collaborate with organizations of PWDs to open new opportunities. Requirements for adopting appropriate design in new and renovated housing and employment settings must be a priority. In all such efforts, men and women from the disability community should be in leadership roles. See pages 19-21 for details.

5. **Augment the professional and managerial skills of local partners.** Work of the scale and significance contemplated in this report can only succeed if people have sophisticated and up-to-date skills in technical and managerial areas. Many organizations ready to engage with the response to Agent Orange/dioxin have insufficient staffing, training, physical space and links with peers. Training and creative partnerships that build professions serving people with disabilities are urgently needed. Again, priority must be given to the areas of greatest need and to organizations working directly with families and individuals. See pages 21-24 for details.

6. **Conduct long term research studies.** Vietnam's new high resolution dioxin laboratory will certainly generate new data and knowledge about dioxin. Priority should be given to developing methods of international scientific cooperation so that this and similar information is widely shared among peers. See page 24 for details.

7. **Create new and robust funding mechanisms.** As work and international cooperation to end dioxin exposure has grown over recent years, various models of co-funding and public private partnerships have emerged. These nascent patterns of cooperation need to be nurtured and promoted. Contributions from governments, businesses, foundations and individuals will only continue if programs are well documented and analyzed, financially accountable and transparent, and conducted in a cooperative spirit. Multi-year commitments should be encouraged to ensure sustainable efforts and continuity. Key public figures from each sector should be asked to play leadership roles in assembling funds. See pages 24-28 for details.

8. **Enhance public awareness in both countries**. American and Vietnamese publics need to know about steady progress as it is made and significant milestones as they are achieved by cooperative work between the two countries towards the above objectives.

These topics are explored in more depth in the annex to this report.

Projected Budget for the Five Year Plan 2013-2017

The Plan of Action released by the U.S.-Vietnam Dialogue Group on Agent Orange/dioxin in 2010 called for a set of activities with a projected cost of $300 million over ten years--$100 million to clean dioxin-contaminated soils and restore the productivity of damaged landscapes and $200 million to expand services to people with disabilities linked to dioxin, and to people with other forms of disability, and to their families. Projected expenditures under the Plan averaged $30 million/ year for ten years. In the first year, 2010-2011, funds allocated to Agent Orange programs in Vietnam were $20 million from diverse public and private sources. In the second year, 2011-2012, the allocation also reached $20 million but came almost entirely from the U.S. government appropriation as other resources either paused or were directed elsewhere.

Since 2010 cost estimates have become more precise. The costs of a full clean-up are now projected to be as follows: Da Nang- $43 million; Phu Cat- $5 million; Bien Hoa- $85 million; and the lesser

hotspots- $17 million. These costs total $150 million, 50 percent higher than what the Dialogue Group projected in 2010.

New data and analysis from Dr. Jeanne Stellman about wartime spraying patterns will soon permit more precise mapping of the areas that received higher average dioxin exposure. A table on page 14 offers preliminary data. Data from the 2009 Census on patterns of disability by province are now available and appear in a table on page 29. The disability data can be cross-tabbed with the spray pattern data to suggest areas where disabilities might be associated with dioxin exposure. Combined with new experience about the cost of addressing disabilities, this analysis permits us to provide better estimates of the cost of providing comprehensive services to people with disabilities in areas where dioxin might be a contributing factor.

The Vietnamese government has increased its commitments to restoring damaged ecosystems and to providing services to people with disabilities. The legal framework governing protections for, and accommodations of, people with disabilities has been strengthened. Public expenditures lag behind these commitments. As more becomes known about the needs for expanded social services in areas targeted by Agent Orange, these costs can also be expected to rise. The Group has therefore increased the projected cost of the Plan of Action from $300 million over ten years to $450 million over ten years.

The $40 million which has been raised during the last two years should be deducted from the $450 million, leaving $410 million to be mobilized. This sum could be deployed over a five year period, as recommended in this report, at an average of $82 million per year. As noted, the Government of Vietnam has called for completion of its National Action Plan by 2020. This provides a projected end date for completing clean-up, establishing major ecosystem restoration efforts, and putting in place sustainable systems of care and support for people with disabilities. This revised total implies an estimated annual investment of $51.25 over eight years.

The $410 million would be used as follows:

(i) dioxin clean-up: $107 million (Bien Hoa $85 million, Phu Cat $5 million and lesser hotspots $17 million); and,

(ii) social services and the other components described in this report: $303 million

Of the annual funding target of $82 million, the Dialogue Group recommends that $65million come from the U.S. Government with the balance of $ 17 million/ year coming from other bilateral and private for-profit and not-for-profit sources.

ANNEX

1. CLEAN UP DIOXIN AT ALL REMAINING CONTAMINATED SITES

During the period 1961-1971 over 47 million liters of dioxin-contaminated herbicides were sprayed over as much as 2.6 million hectares of southern and central Vietnam. About 14 percent of southern Vietnam was sprayed at least once. Herbicide formulations Orange (1965-1970), Pink (1961- 1965), Green (1961 – 1965), and Purple (1962-1965) all contained the herbicide 2,4,5-T that was found to be contaminated with dioxin (TCDD). Because the herbicides were manufactured by different companies and had varying levels of dioxin contamination from batch to batch, the levels of dioxin in the herbicides ranged from less than 1ppm (part per million) to a high of 65 ppm[2]. By reviewing the spray data and using the mean of 3 ppm TCDD Prof. Jeanne Stellman at Columbia University and her colleagues estimated that the herbicides sprayed over Vietnam contained a minimum of 366 kg of dioxin. TCDD is extremely stable. As a result, more than 40 years after the end of the spraying there are still some localized pockets of dioxin contamination in southern Vietnam.

Vietnamese and international scientists have extensively tested soils and sediments and found elevated levels of dioxin at former US military facilities where spraying aircraft were based or where there was frequent perimeter spraying. The Canadian firm, Hatfield Consultants, working with Vietnamese colleagues, found that landscapes where the herbicides were sprayed no longer have high levels of residual dioxin. There is limited evidence that some of the dioxin attached to soil particles washed downhill in seasonal rains and pooled in the sediment of upland ponds and reservoirs. Further investigation is required to determine the fate of dioxin which may have been transported in this way.

The Vietnamese government has identified three priority hotspots in need of immediate mitigation and/or clean-up at the former US "Operation Ranch Hand" airbases in Da Nang, Bien Hoa and Phu Cat. All three airports have been found to have dioxin levels exceeding the Vietnamese permitted standard of 1,000 ppt TEQ for soil and 150 ppt TEQ for sediment in industrial settings. Additional testing is required to address potential dioxin contamination at approximately 25 other former US installations, as shown in the following table.

a. Remediation of Dioxin at Da Nang, Bien Hoa and Phu Cat

Priority dioxin Hot spots at former US Military bases in current stages of mitigation

Location	Da Nang Airbase	Bien Hoa Air Base	Phu Cat Airbase
Description	• Located in Da Nang City, Central Vietnam in a densely populated City with a population of 900,000 • Adjacent Neighborhoods: Thanh Khe pop. 174,557; Cam Le pop. 87,691; Hai Chau pop. 189,561. • Major Ranch Hand Base	• Located in Bien Hoa City, 35 km nw of Ho Chi Minh City, Vietnam with a population of around 700,000. • Adjacent neighborhoods Trung Dung and Tan Phong • Major Ranch Hand Base (1966-1971) • Pacer Ivy (December 1971- March 1972)	• Located in rural area of Binh Dinh Province in central coast of Vietnam. • Adjacent Neighborhoods Phu Cat District Population 188,042 • Ranch Hand Base (1968 – 1970) and Pacer Ivy site. • Handled over 3.5 million

[2] The higher levels of dioxin were in Agent Purple, Pink and Green that was used prior to 1965.

	(1964-1971) • Pacer Ivy (April 1970- March 1972) • Handled more than 2.9 million gallons of Agent Orange • Currently international airbase as well as Vietnamese military base. • On and off base lakes had been used to raise fish, ducks and lotus.	More than 5.4 million gallons of Agent Orange handled on the base • Two large spills at the storage tank of 66,000 gallons of Agent Orange • On and off base lakes and ponds had been used to raise fish and ducks. • Currently a Vietnamese Air Force base.	gallons of Agent Orange • Currently a Vietnamese Air Force Base
Dioxin Contamination **a. Hatfield/C 33 2009** **b. Hatfield/C 33 2011** **c. C33/UND P 2009** **d. VRTC** **e. UNDP/VN DL**	• Mixing area soil 858 -161,000 ppt TCDD[a] • Sen Lake Sediment: 61 – 6240 ppt TCDD[a] • Pacer Ivy: • Sen Lake fish fat up to 7920 ppt TCCD[a] • Above 20 pg/g TCDD in fish from Lake B and Airport West Lake[a] • 1150 ppt in blood of airbase worker[a]	• Storage Area (Z1) before mitigation: up to 5 million ppt[d] • Storage Area after contained landfill built • Pacer Ivy: 61,400 ppt[b] • Pacer Ivy Lakes and ponds: - 5,970 pg/g dry weight[b] • Fish: 4 - 4040 ppt TCDD[b] • Human blood: 19.3 – 2020 pg/g[b] • Arsenic was also found likely from Agent Blue though it is not yet known if this is a public health threat.	• Former storage site (Z3) up to 236,000 ppt TCDD.[c] • Downstream of storage site: 1760 – 16,000 ppt TCDD[c] • Z3 Perimeter Zone 0.50 – 2890 ppt TCDD • New Site tested by Vietnam Dioxin Laboratory N.D – 89,879 ppt TEQ[e] • Pacer Ivy Site:
Mitigation to date:	• Perimeter wall built around airbase • Fishing Prohibited in lakes • Former Mixing & Storage areas capped • Sediment traps built in drainage ditches • EIA completed for in-place thermal desorption (IPTD) • Unexploded ordnance cleared by Vietnamese MOD • EPA/VAST pilot of bioremediation of dioxin conducted (2009 – 2012). successful in reducing TCDD levels to below 1000 ppt	• 94,000 m^3 Soil from the Z1 storage area was removed and placed in a secure landfill between 2006-2009. • The Z1 storage site was capped in concrete and drainage ditches built. • Fishing and duck raising prohibited on base lakes and ponds. • VAST is treating 3400 m^3 of the Z1 soil in bioremediation treatment • MCD ball milling technology (New Zealand) being tested on 100 m^3 • Dong Nai Department of Natural Resources and the Environment is monitoring dioxin migration	• UNDP – MONRE GEF project underway to build a secure landfill to contain 2000 m^2 contaminated soil from the Z3 region • Drainage ditches constructed to control dioxin runoff in sedimentation tanks. • Access to the base is restricted.
Future Mitigation needs	• USAID awarded contract to Terra Therm for IPTD of 77.400 m^3 of soil/sediment • Dioxin contaminated soil and sediment will be removed and decontaminated to less than 1000 ppt in soil and 150 ppt in sediment in two phases. • Project to start in August 2012 and expected to be complete in 2016.	• Additional testing (up to 3000 samples) needs to be done to identify perimeters of the dioxin hot spots. • EIA conducted and remediation plan developed for remediation of at least 100,000 m^3 of soil and sediment. • Technologies being considered are IPTD, passive landfill, bioremediation, and mechano-chemical destruction • Construction of fences to protect local population from dioxin hot	• Additional testing is need to confirm perimeters of the dioxin hotspots • Mechno-chemical destruction (ball-rolling technology) is being considered as a mitigation technique.

		spots.	
Estimated Clean-up Cost	Total: $44.35 million $42.1 million from USAID $2.25 million from GOVN	Total $85 million	Total: $5 million

b. **Dioxin at Other Bases**

In addition to the above three priority dioxin hotspots there are a handful of other former American military bases in southern Vietnam where there are residual dioxin levels that pose a public health threat. The investigation of the A Luoi Valley in 1994-1999 by the 10-80 Committee of the Ministry of Health and Hatfield Consultants, Ltd. identified the former A So airbase as a dioxin hotspot. From 2002 to 2005, the 10-80 Committee and Hatfield went on to assess the status of 2,735 former bases. In addition to the three main sites at Da Nang, Phu Cat and Bien Hoa and the original site at A So they found 30 additional sites, listed in the following table.

	Province	Potential Dioxin Hotspots- Hatfield (2005)	Hotspot Risk Level
1	Da Nang	Marble Mountain Airfield	Suspect
2		An Dong storage facility	Suspect
3		Tien Sa Port facility	Low
4	Binh Dinh	Qui Nhon ammunition storage facility	Low
5		Long My Depot	Low
6	Dong Nai	Long Binh depot	Low
7		Xuan Loc Airfield	Low
8	Quang Tri	Ta Con Airfield	Unknown
9	Thua-Thien- Hue	A Shau Airfield [A Luoi district]	High
10		Khe Loi Lake Dumpsite	Unknown
11		Phu Bai Airport	Unknown
12	Quang Nam	Chu Lai airfield	Suspect
13	Kon Tum	Dak To 2 airfield	Suspect
14		Dak To 1 airfield	Low
15	Gai Lai	Pleiku Airbase	Suspect
16		Ia Bang commune (Pleiku center)	Low
17		Bien Ho lake (5 kms from Pleiku)	Low
18		Pleiku Area Airfield(Camp Holloway)	Low
19		Pleiku/An Khe POL Storage Depot	Low
20	Phu Yen	Tuy Hoa south airfield	Suspect
21		Tuy Hoa north airfield	Low
22	Dak Nong	Nhon Co Airfield	Suspect
23	Khanh Hoa	Cam Ranh Bay Airbase	Suspect
24		Dong Ba Thin airfield	Low

25		Nha Trang Airfield	Suspect
26	Ninh Thuan	Phan Rang airfield	Suspect
27	Bien Phuoc	Song Be/Nui Ba Ra airfield	Low
28	Ho Chi Minh City	Tan Son Nhat airport	Suspect
29	Can Tho	Can Tho Army Airfield	Suspect (high)
30	Ca Mau	Bac Lieu Airfield	Unknown

A Google Earth file which locates and provides further information for all the known hotspots in Vietnam can be accessed at www.aspeninstitute.org/policy-work/agent-orange/ .

Each of these dioxin hotspots should be reviewed, prioritized and neutralized. In the interim 'soft measures' should be implemented to reduce exposure at all the identified potential hotspots. These measures include banning of fishing and agriculture on former US military installations; restricting access to all contaminated sites by military personnel and the general public; posting of 'no fishing/no agriculture' signs around sites that are suspected to be contaminated; and public awareness campaigns in surrounding wards and communes.

c. Possible Pooling of Dioxin in Upland Ponds and Reservoirs

Vietnamese experts suspect that there are areas in Vietnam where the dioxin has pooled in the sediment of upland ponds and reservoirs in heavily sprayed regions. According to the Forestry Inventory and Planning Institute (FIPI) analysis conducted in 2010, Bien Phuoc, Dong Nai, Quang Nam, Thua Thien Hue and Tay Ninh all have reservoirs in the sprayed regions. Some of the regions sprayed had large areas of rivers and ponds such as Quang Nam, Thua Thien Hue, Binh Phuoc and Quang Tri. Attention needs to be given to identifying possible dioxin collection points in these places through remote sensing data and available secondary data; collecting and testing samples; setting criteria and prioritizing dioxin contaminated upland ponds and reservoirs for clean-up.

d. Documentation of Bioremediation Technology

The Vietnam Agency of Science and Technology and US EPA successfully tested a bioremediation technology at the Da Nang airport and later repeated these tests on a larger scale at Bien Hoa. The Bien Hoa tests showed that dioxin could be reduced to negligible levels over a 27-month period. Bioremediation is a low-cost technology method that might find application in cleaning up some of the lesser dioxin hotspots such as the former A So airbase in A Luoi.

2. UPGRADE INTEGRATED SOCIAL SERVICES FOR PEOPLE WITH DISABILITIES IN PROVINCES TARGETED BY AGENT ORANGE

a. Prioritize Provinces Targeted by Agent Orange According to the Best Estimates of Dioxin Each Received

It is difficult to know how many of the residents currently living in the heavily sprayed regions in Vietnam were living in these regions during the war or had parents or grandparents living there at the time. Population movements during and after the war may have resulted in some people being exposed to the toxic herbicides numerous times. Others were never exposed. As a result, it is not possible to make a simple correlation between living today in an area that was heavily sprayed and higher rates of Agent Orange- related conditions or higher rates of disabilities and birth defects that might be related to dioxin exposure. Nonetheless, in the heavily sprayed areas one should expect a greater likelihood of direct contact with the herbicides by civilians and soldiers during the war and a greater potential for negative health impacts.

The following table presents estimates of the areas sprayed by dioxin contaminated herbicides from 1961 to 1971, and the amounts of dioxin that were sprayed over each province. The table is based on data compiled by Jeanne Stellman and her colleagues at Columbia University on herbicide spray runs and perimeter spraying at military bases. These data were used to generate provincial estimates of the amount of dioxin contaminated herbicides sprayed according to the provincial boundaries as they existed in 1996. The volume sprayed per province yielded an estimate of the percentage of the province sprayed. Using Stellman's lower estimate of 3 parts per trillion dioxin contamination, the amount of dioxin per province was estimated at .022 kgs. of dioxin/square km. Several provinces which formed a single province in 1996 have been listed together in the table.

Work is in progress to further specify the areas of Vietnam that were the most heavily impacted and where there was the greatest likelihood of human exposure. This more fine-grained analysis will be posted to this website by mid-2012: http://www.columbia.edu/~jms13 The Dialogue Group believes that this analysis will be helpful in prioritizing areas in which to develop health and disabilities programs which address the needs of people that might be associated with exposure to dioxin.

Areas Targeted by Agent Orange and Other Dioxin-contaminated Herbicides Vietnam, 1961-71

Province	Population 2009 (*thous. pers*)	Total Area (*sq. kms.*)	Total Area Sprayed (sq. kms.)	Area Sprayed as Pct. of Total Area	Total Dioxin Deposited on Province (kgs.)	Population Density 2009 (persons/ sq. km.)	Gallons Sprayed
Đồng Nai	2,569.40	5,905	2,413	40.9%	53.09	435	1,785,897
Bình Phước/Bình Dương	2,513.30	9,578	2,317	24.2%	50.97	262	1,714,609
Thừa Thiên Huế	1,090.90	5,065	1,244	24.6%	27.39	215	920,497
Kon Tum	443.40	9,691	1,106	11.4%	24.33	46	818,340
Tây Ninh	1,075.30	4,036	933	23.1%	20.56	266	690,160
Cà Mau/Bạc Liêu	2,070.90	7,916	902	11.4%	19.84	262	667,579
Quảng Nam/Đà Nẵng	2,351.00	11,696	899	7.7%	19.78	201	665,431
TP.Hồ Chí Minh	7,396.50	2,099	853	40.6%	18.76	3,524	631,673
Quảng Trị	600.50	4,760	828	17.4%	18.22	126	613,062
Bình Định	1,489.70	6,040	609	10.1%	13.40	247	450,817
Đắk Lắk/Đắk Nông	2,265.00	19,656	604	3.1%	13.29	115	446,642
Bình Thuận	1,176.90	7,837	556	7.1%	12.23	150	411,127
Gia Lai	1,300.90	15,537	550	3.5%	12.10	84	407,110
Lâm Đồng	1,204.90	9,776	424	4.3%	9.33	123	313,773
Bà Rịa - Vũng Tàu	1,012.00	1,990	402	20.2%	8.84	509	297,455
Bến Tre	1,256.70	2,360	302	12.8%	6.64	532	223,471
Phú Yên	868.50	5,061	291	5.8%	6.40	172	215,339
Long An	1,446.20	4,494	289	6.4%	6.36	322	213,737
Quảng Ngãi	1,218.60	5,153	254	4.9%	5.59	236	188,071
Trà Vinh	1,005.90	2,295	242	10.5%	5.32	438	179,011
Khánh Hoà	1,167.70	5,218	190	3.6%	1.98	224	140,765
Ninh Thuận	570.10	3,363	161	4.8%	3.54	170	119,350
Sóc Trăng	1,300.80	3,312	79	2.4%	1.74	393	58,145
Kiên Giang	1,703.50	6,348	55	0.9%	1.21	268	40,784
Cần Thơ/Hậu Giang	1,955.70	3,003	42	1.4%	0.92	651	31,308
Tiền Giang	1,677.00	2,484	39	1.6%	0.86	675	29,030
Vĩnh Long	1,026.50	1,479	17	1.1%	0.37	694	12,683
Đồng Tháp	1,670.50	3,376	17	0.5%	0.37	495	12,699
Quảng Bình	849.30	8,065	5	0.1%	0.11	105	3,800
An Giang	2,149.50	3,406	1	0.0%	0.01	631	345

Sources:

Government Statistics Office, 2009 Census of Vietnam

Vietnam Administrative Atlas, 2009

Stellman, J.M. et al."The Extent and Patterns of Usage of Agent Orange and other Herbicides in Vietnam," *Nature*, Vol. 422, 17 April 2003 and personal communications with the authors.

b. People with Disabilities

To date there are no comprehensive surveys of people with disabilities in Vietnam. The 2009 census asked whether or not the people over the age of five in the household had a difficulty with vision, hearing, movement, or cognition. Analysis of the data showed that out of a population of 85,847,000 approximately 6.1 million people (or 7.8%) have one or more disabilities. The rates vary greatly from region to region and province to province. However, some of the ten most heavily sprayed provinces have the highest rates of disability in the country.[3] While it is not possible to determine if this is due to the heavy use of dioxin contaminated herbicide in these regions, it is clear that regardless of cause, Quang Tri, Thua Thien Hue, Quang Nam, Da Nang and Quang Ngai are among those provinces in Vietnam whose population has a high percentage of disabilities, especially those with 'no ability' in vision, hearing, movement or cognition.

Poverty

Very few comprehensive assessments of the socio-economic situation of people with disabilities have been conducted. The few that have been done are limited in scope and typically address the specific needs of particular organizations or projects. Nonetheless, they do provide some insight into the needs of people with disabilities in Vietnam, including those believed to be impacted by Agent Orange/dioxin. In 2006, the Ford Foundation funded the Institute for Social Development Studies (ISDS) to conduct a survey of people with disabilities in Thai Binh, Quang Nam/Da Nang and Dong Nai. The researchers found that, in general, households with a family member with disabilities were poorer; their houses were more likely to be temporary or semi-permanent with simple or no latrine, and to rely on wood stoves rather than electricity/gas. These households had fewer possessions such as motorbikes, refrigerators and televisions.

Not surprisingly, ISDS found that households with people with disabilities had lower annual incomes (i.e. 3.1 million VND vs. 4.6 million VND in Quang Ngai/Da Nang). Often this was because one of the wage earners must remain home to care for the person with a disability. The overall health of household members was also poorer, not just for the person affected but for the other family members as well. The ISDS study also found that households that include a person with a disability were more often further away from community services such as clinics, schools, and markets.

The study further found that people with disabilities were less likely to attend school. About one third in Quang Nam and Thai Binh, and nearly one half in Dong Nai, never attended school. This was especially marked among females. Those who do attend usually drop out after primary or lower secondary school. Fewer than 10 percent of persons with disabilities surveyed went on to upper secondary school and fewer than 1 percent continued to college or university. Those who were classified as being impacted by Agent Orange were even less likely to attend school. Moreover, between 25 and 35 percent of people with disabilities were currently employed. About one-third used to be employed but could no longer work due to their disability. As we saw with education, females with disabilities were less likely to work than their male counterparts. Only 19 percent of females with disabilities in Dong Nai were working, and only 27 percent in Quang Nam/Da Nang.

[3] See the table of national and provincial rates of disability in the 2009 Vietnam Census, page 30.

Among the main reasons ISDS found that persons with disabilities did not go to school was difficulty in learning, inability to communicate with teachers and peers, and lack of transportation.

These finding were similar to an assessment done by the Ministry of Labor, Invalids and Social Affairs (MOLISA) in 2005 in eight provinces: Quang Ninh, Ho Binh, Ha Tay, Thanh Hoa, Quang Nam, Dac Lac, Dong Nai and Can Tho City. MOLISA found that only 25-30 percent of people with disabilities were employed. One-third of households with a disabled member were living below the poverty line and only 11 percent of households with a person with disabilities could afford a permanent home. MOLISA also found that 41 percent of people with disabilities above the age of 6 were illiterate and only 19.5 percent had gone to school above the lower secondary level. Moreover MOLISA found that 70 to 80 percent of people with disabilities in urban areas depended on their family or social assistance for support and 65-70 percent of rural PWDs required this assistance.

Education

Obtaining education and vocational training is one of the biggest obstacles for people with disabilities in Vietnam. Vietnam is striving to make inclusive education universally available by 2015. But much more needs to be done. Some issues can be readily solved with adequate resources by making schools accessible, providing adaptive equipment and materials, offering paraprofessional aides to children with more severe disabilities, and providing transportation to school.

However, a great deal needs to be done to develop flexible curricula to meet the specific needs of individual children and to train teachers of special education. Moreover, issues of stigma and discrimination in the classroom need to be addressed. According to the Institute of Social Development Studies (ISDS) teasing and teacher discrimination was a factor in children's drop-out rates, ranging as high as 13.6 percent of the children in Thai Binh. Twenty-three percent of those students in Thai Binh who stayed in school reported teasing by their peers about their disability, as did 15 percent of the students in Quang Nam/Da Nang. Similar issues need to be resolved at vocational training programs to make them more accessible and effective in training and ensuring successful job placements for PWDs in Vietnam.

Health Care

Health care institutions in the heavily sprayed areas are weak. People with physical disabilities need rehabilitation centers and trained physical therapists, occupational therapists and speech pathologists. In the five areas with high rates of people with disabilities –Quang Tri, Thua Thien Hue, Quang Nam, Quang Ngai, and Da Nang –there are just three government rehabilitation/sanatorium hospitals under the Department of Health, with a total of 210 beds. Limited rehabilitation and corrective surgery facilities are available at some of the provincial and district hospitals. Many staff are inadequately trained to address the needs of people with disabilities. Moreover, even when services are available, inadequate transportation and lack of wheelchair access make obtaining these services difficult for many, particularly those who live in rural areas.

Health care is free to children under six as well as for those characterized as poor. But up to thirty percent of families with children with disabilities have not sought medical care for their children.

Many parents who do consult doctors about their child's disability are told that nothing can be done. While this may be the case for some children, an effective referral system would allow these families to go to district, provincial or regional centers for more specialized diagnosis and treatment as soon as the disability presents itself.

Coordination of services

One of the major difficulties in addressing the needs of those believed to be impacted by Agent Orange/dioxin and for PWDs in general is that often the medical, educational, livelihood and other supports they need are prescribed in isolation. A government agency, local service delivery organization or an international NGO often addresses just one of the various needs instead of adapting a holistic approach. This may result from limited resources, inadequate capacity, or a very narrow program mandate. Provincial and district coordinating committees with representation from the departments of health, education, labor, invalids and social affairs as well as the Red Cross, VAVA, and other international and local organizations could better coordinate the provision of services. The Children of Vietnam's Hope System of Care (see below) demonstrates how individual care plans can be developed and implemented according to needs of each individual with disabilities.

For recommended programs of activities see the Dialogue Group Plan of Action

3. INCREASE THE PRODUCTIVITY OF DAMAGED LANDSCAPES

Approximately 14 percent, or some 2.6 million hectares, of the land of southern Vietnam was sprayed at least once during the ten years of the Ranch Hand program. In the upland and inland forest areas that were sprayed only once, about 10 percent of the trees died and the majority recovered during the next growing season. However, in areas that were repeatedly sprayed there was considerable damage to the forests. Bombing, fires and the logging of defoliated trees also contributed to the destruction of approximately 20 percent of southern Vietnam's upland forests during the war. In addition, approximately 50 percent of the mangroves along the coast were completely destroyed by the herbicides.

After the war the Vietnamese began efforts to replant the coastal mangroves in the Ca Mau and Can Gio region. These areas today have been replanted, although some of the regions are again under threat due to industrialization and aquaculture. To stop erosion, protect watersheds and provide livelihoods, vast areas of single species of eucalyptus and acacia trees were planted in the heavily deforested areas.

Much has been learned from these early reforestation efforts and the Vietnamese are now focusing on ways to restore the damaged landscapes while taking into consideration biodiversity, the need for green corridors and protected forests, global warming, and the economic development of upland regions. Vietnamese forestry specialists have been working for the past few decades to reintroduce native species to the areas of the Ma Da Forest in Dong Nai province that were heavily deforested. Prior to the war the Ma Da area had very dense evergreen forest covering 114,470 hectares, treeless land covered about 37,000 hectares of the region. More than 1.6 million gallons of herbicides were sprayed in this region. After the war more than half of the Ma Da forest was destroyed and what

forest remained was of medium or poor quality. Treeless land where invasive grasses were growing increased to almost 99,000 hectares.

First attempts to reforest Ma Da with high quality hardwoods failed as the seedlings died in the hot tropical sun. The Vietnamese foresters learned that by planting a shade crop of acacia and eucalyptus trees in Ma Da, they are able after three years to reintroduce native *dipterocarp* species. As the area has been gradually reforested over time, birds and animals have returned to the forest, helping natural reforestation by spreading seeds from the reintroduced trees. Although it is expensive and labor intensive, restoring Ma Da Forest has become a priority of the national and provincial government in Vietnam for at least three reasons: protecting the watersheds of the reservoir that supplies fresh water to more than 10 million people; reducing the impacts of industrialization in the greater Ho Chi Minh City area by generating more than 3.2 million tons of oxygen a year; and restoring biodiversity and conservation in the Dong Nai River basin.

The lessons learned from Ma Da will be used to help improve the quality of forests in the A Luoi region of Vietnam, an area that was also heavily deforested by herbicides. The Vietnamese Center for Natural Resources and Environmental Studies (CRES) and the Forest Inventory and Planning Institute have worked with the Vietnamese government to develop a plan to make the A Luoi Valley a 'laboratory' for addressing the ecological impacts of Agent Orange/dioxin.

Implicit in this effort are the needs to raise awareness among local authorities and residents in the heavily deforested provinces about Agent Orange and the steps required to restore the degraded forests. Expanding the work that CRES has done in Quang Tri and Thua Thien Hue provinces, providing training courses for provincial and district forest managers, technical staff and local farmers, is crucial. As work is begun, the knowledge and skills of the local forest workers and farmers need to be taken into account. The program should be conducted first in Quang Nam and then later in Quang Ngai provinces.

Agriculture and forestry work to restore landscapes damaged by Agent Orange should focus on A Luoi district, Thua Thien Hue province. The A Luoi Valley was heavily sprayed by herbicides during the war. The Valley, which is adjacent to the Lao border, is primarily populated with ethnic minorities who rely on the forests for their livelihoods. In 2011, CRES conducted training programs in A Luoi on the impacts of Agent Orange and on reforestation methods. The next step is to integrate what has been learned into the future economic development and environmental conservation of the region. This will include developing a land use plan to identify those areas of the valley that will be used for agriculture and livestock breeding, planted for production forests using both short term (pulp) or longer term (valuable hardwood) species, or replanted and diversified for conservation purposes.

In addition, local government staff and farmers can be trained in the selection of appropriate varieties of cash crops and animals for the environment, the selection of varieties of native species that should be reintroduced into the valley, and how to care for the various species and when to properly harvest them for sustainability. Moreover, a support network of producers and purchasers must be established in order to ensure that there is a viable market for the forest and agricultural products that are raised in the valley. Since the soil in this region is heavily degraded due to defoliation and subsequent

erosion, local villagers will need to be supported in developing their own compost piles to be used in their gardens and forest plots, reducing the reliance on chemical fertilizers. Agricultural soils found with dioxin levels exceeding national standards can be treated with bioremediation and compost to reduce levels and increase productivity. The A Luoi Valley was recently designated by the Prime Minister of Vietnam as a "Museum and Laboratory for the impact of Agent Orange/Dioxin." As with Ma Da, the lessons learned here will help to address the afforestation needs of other heavily sprayed regions of Vietnam, particularly those in other upland regions whose populations rely on the forests.

4. ADVANCE DISABILITY RIGHTS

a. Existing policies

The Vietnamese constitution states that people with disabilities have equal rights. Over the years various laws have helped to better define these rights such as the Labor Code (1994), the Law of Protection and Care of Children (1996) and the Ordinance for Disabled People (1998). Resolution NO 55/ND-CP outlined guidelines for the implementation of some of the articles in the Ordinance such as provision of monthly stipends for people with disabilities who are poor, reduction of school fees for people with disabilities, scholarships for people with disabilities going to university or vocational training; exemption from health fees for people with disabilities who are classified as poor, and non-discrimination towards people with disabilities in the work force.

In June 2010 the Vietnamese government passed the Law on Disabilities that forbids the discrimination and stigmatization of people with disabilities. The Law further defines the rights of people with disabilities and the roles of each of the ministries to ensure that the rights of people with disabilities are upheld. The new law calls for equal participation in society, access for people with disabilities to health care, education and vocational training, employment, cultural, entertainment and sports activities. It also calls for accessibility in public buildings, transportation and information technology and for reasonable accommodation for people with disabilities with regard to health care, education and vocational training, employment and sports and cultural activities. The law requires that MOLISA conduct a baseline survey on disability, develop and maintain a database on disability and publish periodic reports on disabilities. The new Disability law goes a long way to comply with the Convention on the Rights of People with Disabilities that Vietnam signed in 2007 -- but has not ratified.

The Law defines people with disabilities as: "Those who have impairment of one or more parts of their body, or functional impairment, which are shown in different forms of disability, and may cause difficulties in work, daily life and learning." The classification of disabilities under the law includes: Mobility, Hearing and Speaking, Vision, Mental, Intellectual, and Other disability/impairments. The law defines three levels of disability:

a) persons with severe disability are those who are unable to support themselves in their daily activities,
b) persons with moderate disability are those who are able to support themselves in some of their daily activities,
c) persons with minor disabilities are those who do not fall under provisions a) and b).

The law includes provisions that when implemented will address many of the issues currently facing people with disabilities in Vietnam. While the law calls for an annual State budget to implement the policies in the law, it is not clear how much of a budget the State will provide to this end.

The law calls for the establishment of Councils on Disability Classification by the People's Committee at the commune, ward or town level. The councils are to be made up of the representatives of the People's Committee, the health station, social affairs workers, the Fatherland Front, Women's Union and/or Youth Union, and the Disabled People's Organizations (DPOs). They are tasked to determine the type of disability and level of disability of the residents. A medical council will be convened if the committee is having a difficult time determining an individual's type and/or level of disability. The individual or family affected has the right to appeal the decision if they disagree with the Council. However, it is up to the individual or their legal guardian to apply for the certification of the type and severity of the disability. How these counsels will work in practice is not yet clear.

The law also requires that health stations develop a case management system for people with disabilities, provide health check-ups and treatment for people with disabilities, provide counseling to parents on early detection and prevention of disabilities and identify disabilities in newborns in order to begin timely treatment and rehabilitation. It requires health facilities to give priority to persons with disabilities for health check-ups and treatment. The People's Committees are responsible for forming and implementing Community Based Rehabilitation (CBR) programs or providing the conditions for other organizations or individuals to implement CBR in their localities. The law requires the State to provide a budget for local health stations, to train experts on orthopedics and rehabilitation, and to fund scientific studies on disability issues.

The law also provides for education and vocational training. This includes allowing people with disabilities to enter school at a later age, forbidding schools from denying enrollment to people with disabilities, allowing exemption from or reduction of school fees, and allowing persons with disabilities to receive scholarships for educational tools and materials. It requires that schools be upgraded to ensure they are accessible and that they provide persons with disabilities educational tools and materials for their specific needs.

The law calls for inclusive education to be the method of choice for children with disabilities, reserving integrated and special education only when the conditions for inclusive education are not met. However, people with disabilities or their families can have a say in which type of educational setting is appropriate. People with disabilities are also given the right to free vocational training programs and job counseling. Self-employed persons with disabilities are entitled to loans with preferential interest rates and training in business management and marketing skills. Businesses with more than 30 percent of their employees living with disabilities can also borrow money at preferential rates, receive reductions in rents and land lease rates, and are exempt from income tax.

In addition, the disability law states that people with severe and moderate disabilities are entitled to monthly stipends. Families who are caring for people with disabilities are entitled to a monthly nursing allowance. The families are responsible for caring for and nursing their family members with

disabilities and for creating the conditions to ensure access to health care and their other rights and obligations. Persons with disabilities who do not have families are entitled to care at residential facilities. These facilities will receive a monthly allowance and support for the purchase of assistive devices, rehabilitation equipment, medicines, health insurance and items necessary for daily living.

While the Law on Disabilities provides the legal structure in which to ensure that people with disabilities have equal rights, on a practical level much needs to be done to ensure that those rights are honored.

5. AUGMENT THE PROFESSIONAL & MANAGERIAL SKILLS OF LOCAL PARTNERS

a. Current service providers

In Vietnam, a rich array of governmental and non-governmental institutions provides services for people with disabilities. This offers many options, but makes coordination challenging.

Government

The Law on Disabilities has designated the Ministry of Labor and Social Affairs (MOLISA) the lead agency for issues related to people with disabilities, with the responsibility to develop policies, mount informational campaigns, compile data on disabilities, plan and manage centers that support people with disabilities - including rehabilitation centers - provide professional training of staff and determine the process for awarding monthly stipends or social support, and coordinate with the other line ministries addressing disabilities issues.

The Ministry of Education and Training (MOET) is responsible for developing inclusive education for children with disabilities, conducting special education and vocational training programs, training teachers, and developing curriculum and materials.

The Ministry of Health (MOH) is responsible for providing health care for persons with disabilities, training staff in orthopedics and rehabilitation, implementing disability prevention programs and providing guidance for CBR programs. MOH also operates 44 Rehabilitation Centers and Sanatoriums throughout the country.

The Ministry of Culture is expected to enforce building codes to assure accessibility in public buildings, residential apartment blocks and office buildings. The Ministry of Transportation has this responsibility for public transport.

Provincial and district People's Committees are tasked with promoting the rights of persons with disabilities and encouraging organizations and individuals to support persons with disabilities.

Mass Organizations

The Vietnam Association for Victims of Agent Orange/Dioxin (VAVA) focuses on those believed to be impacted by Agent Orange/Dioxin and now has chapters in most of Vietnam's provinces. VAVA also tends to focus their efforts on those who fall near or below the poverty line by providing monthly stipends, scholarships, economic development support, home improvements and periodic gifts of money and food.

The Women's Union, Youth Union, and the Fatherland Front provide economic support for their constituents with illnesses or disabilities. Many members are active in local CBR programs. In addition, the Vietnam Red Cross provides support for those persons with disabilities and the ill who fall within the category of those at or near the poverty level. This support can take the form of occasional gifts of money and food, scholarships, support for medical care and rehabilitation, economic support or home improvements. All of these organizations have chapters at the provincial, district and commune level.

International NGOs

Many international NGOs have also focused their work on addressing the needs of persons with disabilities. They include Catholic Relief Services, Children of Vietnam, Deutscher Entwicklungsdienst Viet Nam, East Meets West Foundation, Handicap International, Health Volunteers Overseas, Medisch Comite Nederland Viet Nam, Pearl S Buck Foundation, PLAN, Save the Children, Spanish Red Cross, Vietnam Assistance for the Handicapped, Vietnam Veterans of America Foundation, Voluntary Services Overseas, War Legacies Project, World Concern, and World Vision. The organizations are focused on a variety of activities including inclusive and special education, CBR, economic support and microfinance, medical care and special surgeries, early identification and early intervention, vocational training and/or job placement, capacity building of service providers and/or disabled people's organizations (DPOs), raising awareness, advocacy, and policy development. Others focus on a particular category of persons with disabilities such as survivors of unexploded ordnance accidents. These include Project Renew, Clear Path International and Peace Trees Vietnam. Many of these organizations meet quarterly in Vietnam as part of the Disability Working Group and/or the Agent Orange Working Group to share information about their work, advocate for their sector, and address particular issue.

Local NGOs and Disabled Peoples Organizations (DPOs)

Local organizations have emerged in recent years, including disabled people's organizations (DPOs) and self-help groups focusing on the specific needs of people with disabilities. Many of these groups are founded by and run by people with disabilities. These local NGOS are generally located in Hanoi, Hue, Da Nang, or Ho Chi Minh City, although the DPOs and many clubs and associations of people with disabilities are being established at the provincial and district level. Some organizations provide support including: capacity building and training, scholarships and support for students with disabilities, advocacy and awareness, peer and parent support groups, medical care and rehabilitation, economic support, and research and dissemination of information on disability issues. These include Disability Resource and Capacity Development (DRD) in Ho Chi Minh City, the Office of Genetic

Counseling and Disabled Children in Hue, and in Hanoi the Inclusive Development Action (IDEA), Bright Future Group of People with Disabilities, and Hanoi Independent Living Center.

In addition, there are many state-run and independent religious- based centers and orphanages for people with disabilities throughout the country that provide day care and full time residential care. There are an estimated 107 special schools in Vietnam serving about 7,000 children, including children with autism, Down's Syndrome and other developmental disabilities. But most people with disabilities who need full time care are being cared for by family members in their homes.

b. A Model Program: Da Nang's Hope System of Care

The Dialogue Group has examined and endorsed the Hope System of Care (HSC) developed by Children of Vietnam.

The HSC utilizes and coordinates existing government and local resources to provide a system of care that identifies needs and provides access to quality care for children and youth with disabilities regardless of cause, up to the age of 25. Participants receive wrap-around care that is based on their unique needs and can include one or more services as required. Services include schooling, handicapped accessible housing, counseling, surgery and prosthetics, vocational guidance and training, and business micro-loans. HSC periodically evaluates each case to adjust the services, provide further counseling and assess progress. The ultimate goal is to facilitate the maximum physical, social, and emotional recovery and quality of life, including community integration for children and youth with disabilities

The HSC is being introduced, district by district, in Da Nang through collaboration between Children of Vietnam and the Peoples Committees in Hai Chau district (2007-2009), Ngu Hanh Son district (2009-2012) and Cam Le district (2011-2014). The most recent iteration, in Cam Le district, is funded under the auspices of the Public Private Partnership in Da Nang with contributions from the Rockefeller Foundation, Hyatt Hotels and HSBC Bank, and counterpart funds from the district Peoples Committees.

Three characteristics of the Hope System of Care stand out: services appropriate to each disabled person, which adjust as the person's needs change; 100 percent coverage of everyone up to the age of 25 who meets the selection criteria; and the Peoples Committee commitment to progressively take charge of the HSC until complete handover at the end of the third year.

Identification of Young People with Disabilities

HSC staff members begin the enrollment process with a survey of every household in the district where Peoples Committee records indicate children and youth with disabilities are living. These young people are then sent to the district health center, where experts more clearly identify the nature and degree of severity of the disability. Specialists provide in-depth evaluations for cases which are particularly difficult to diagnose. Every person with severe or multiple disabilities identified in the survey and screening is enrolled in the HSC. Persons with single disabilities whose family is recognized as poor or near poor are also automatically enrolled. Equal numbers of males and females

are enrolled up to the limit of funds. In addition, all households with people with disabilities enrolled in the HSC are designated on ward maps.

This selection of beneficiaries has introduced clear enrollment criteria, and a transparent and fully participatory enrollment process, to find and track every child or youth in the district who has a disability. As of May 2012 there were 167 children with disabilities in Cam Le district, of whom 150 are enrolled in HSC. There are 152 youth with disabilities, of whom 17 are enrolled. The enrollees include one child and 12 youth with disabilities in the district identified by the Da Nang Association of Victims of Agent Orange. As of May 2012, $388,800 had been mobilized for the HSC in Cam Le. An estimated $630,000 is required to achieve 100 percent coverage in Cam Le.

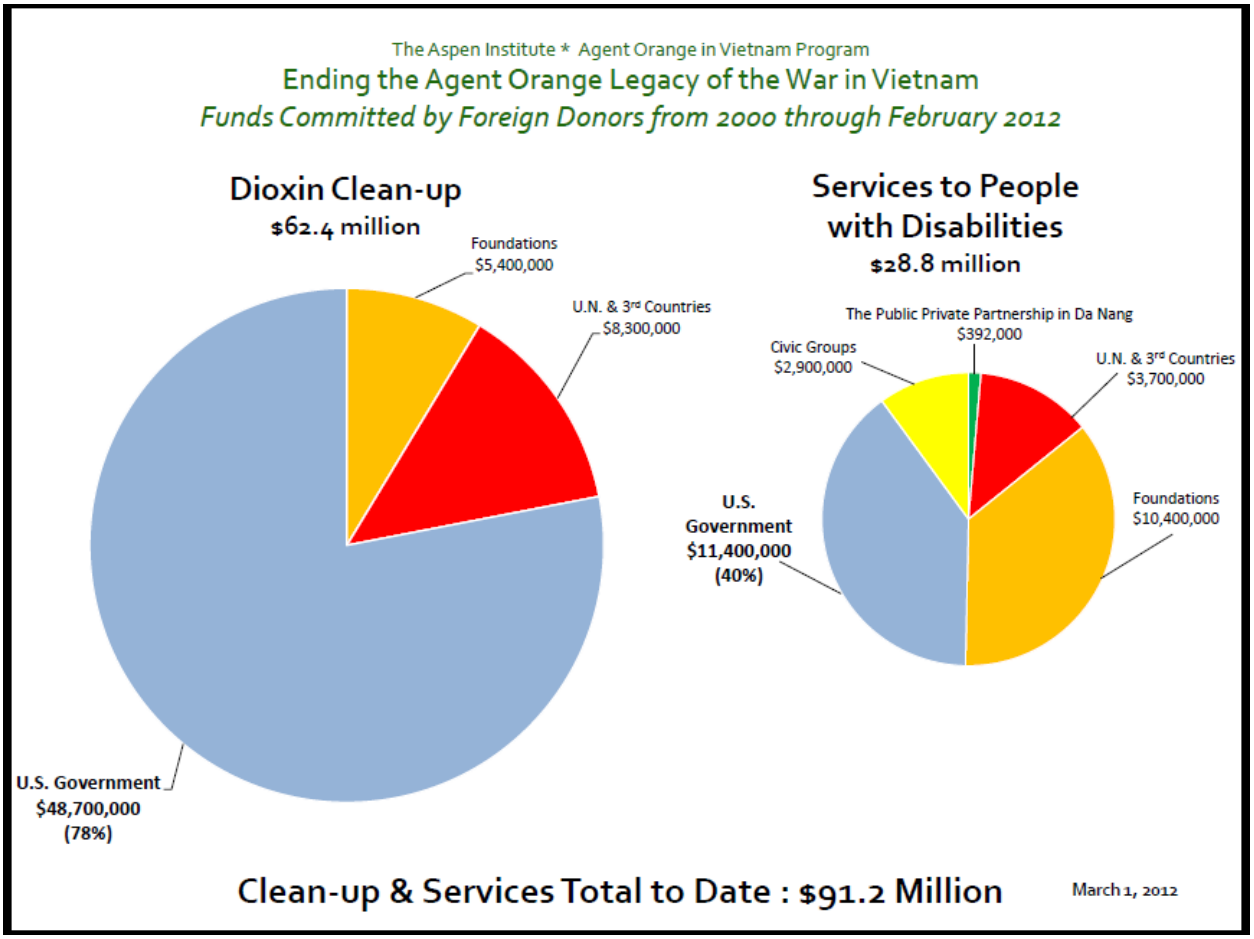
See the Dialogue Group Plan of Action for priority programs for augmenting professional and managerial skills.

6. CONDUCTING LONG TERM RESEARCH STUDIES

The Government of Vietnam has a new high-resolution dioxin laboratory and has sharply increased its five-year research budget. Studies will seek answers to questions concerning the impact of dioxin in the natural environment and techniques for making better use of land affected by herbicides, treatment protocols for reducing dioxin in the body, and intergenerational impacts of dioxin exposure. Research on these and similar topics would benefit from scientific cooperation among the United States, Vietnam and other nations working to reduce the risks of dioxin within their borders.

7. DESIGNING ROBUST FUNDING MECHANISMS

The current era of work to end the Agent Orange legacy in Vietnam began in November of 2006 with the joint statement of American President George W. Bush and Vietnamese President Nguyen Minh Triet. In May 2007 the U.S. Congress approved its first appropriation "for pilot programs for the remediation of Vietnam conflict-era chemical storage sites, and to address the health needs of nearby communities." The Ford Foundation and other American foundations joined the effort along with UNDP and UNICEF, NGOs, and several foreign governments. By 2011 some $91 million had been mobilized from foreign sources, as shown in the chart below. Approximately two-thirds of these funds have been apportioned to clean-up of dioxin hotspots at Da Nang, Bien Hoa and Phu Cat and one-third to health and disabilities programs in some eight provinces, benefiting about 20,000 people with disabilities.



Over the next five years—the period the Dialogue Group recommends for the Comprehensive Plan—these and other sources will need to continue to be tapped for the increased sums that will be required to reach our goal, stated in the Group's 2010 Declaration and Plan of Action: "…to eliminate the public health threat of dioxin hot spots, improve the lives of people with disabilities, restore the defoliated land, and remove a barrier to fully normal U.S.-Vietnam relations."

We believe the U.S. government should play a key role in meeting these costs, along with other public and private donors, supplementing an appropriate continuing investment from the government and the people of Vietnam. The Dialogue Group will continue its efforts to mobilize private funds from new sources and through innovative mechanisms even as we continue to encourage robust public funding. The paragraphs below outline other actors currently engaged in this response.

Charitable giving in Vietnam

In the Fall of 2011 the LIN Center for Community Development in Ho Chi Minh City collaborated with CIMIGO/Vietnam to conduct a survey of 1,028 Vietnamese in cities across the country on their "sentiments and attitudes toward social responsibility and philanthropic giving." Nearly all respondents made charitable donations at least once a year. All of the 500 offline respondents reported giving less than VND 500,000 ($25). Meanwhile, one-third of the online group gave away

VND 1 million or more per year ($50+). The three most influential sources of information for vetting a charitable organization were the Internet, word of mouth, or a direct solicitation. Respondents said they look for charities in their areas of interest that demonstrate transparency and proven effectiveness.

Vietnamese independent organizations are the top choice for giving, followed by governmental channels, international organizations such as UNICEF and Operation Smile, and religious organizations. Disaster relief was the top issue for all respondents, followed by education, the disabled, and children's rights for Northerners. Southerners prioritized the disabled, children's rights, and aging seniors. As the Vietnamese economy continues to grow and the urban middle class expands there is clearly opportunity for greater charitable giving to programs benefiting people with disabilities. For the full survey, see www.linvn.org

Roles of Local Organizations and International NGOs

Local organizations include the mass organizations, other Vietnamese owned and led NGOs, provincial and district Peoples Committees, and departments of education, health and labor, invalids and social affairs. Among the mass organizations, the Vietnamese Association of Victims of Agent Orange is an important spokesman as well as fund-raiser. Significant contributions also come from the Vietnam Red Cross. In terms of services, the great majority of expertise in social services for people with disabilities resides in district level departments of health, education and social affairs throughout the country.

At the same time, new groups of young people with disabilities are emerging and organizing to help themselves, particularly Disabled Peoples Organizations. International NGOs in Vietnam are also important sources of expertise and experience for health and disability programs. Foreign funding should go to an appropriate mix of such organizations, keeping in view the need for full coverage and sustainability.

Public Private Partnerships

Public Private Partnerships are in wide use around the world to join resources and expertise from the private sector, both for-profit and not-for-profit, with those of the public sector to achieve an important public purpose. One example in Vietnam is the partnership of colleges of engineering with Intel, Arizona State University and USAID to provide in-service training opportunities for teachers of engineering. Another example is the Public Private Partnership in Da Nang, which includes local government, an American NGO, the Rockefeller Foundation, Hyatt Hotels, HSBC Bank and the Aspen Institute in support of expanding the Hope System of Care described above. This partnership demonstrates how a balanced mix of organizations can contribute to resolving the legacy of Agent Orange in Vietnam and to strengthening U.S.-Vietnam cooperation. Building and sustaining such partnerships, however, would benefit from initiative and leadership from both governments.

Government of Vietnam National Action Plan

Vietnam has worked steadily since 1980 to deal with Agent Orange/dioxin remnants. In that year, an initial Ministry of Health committee began impact assessment work, and the interagency Steering Committee 33 was formed in 1999 to guide government decision-making on the issue.

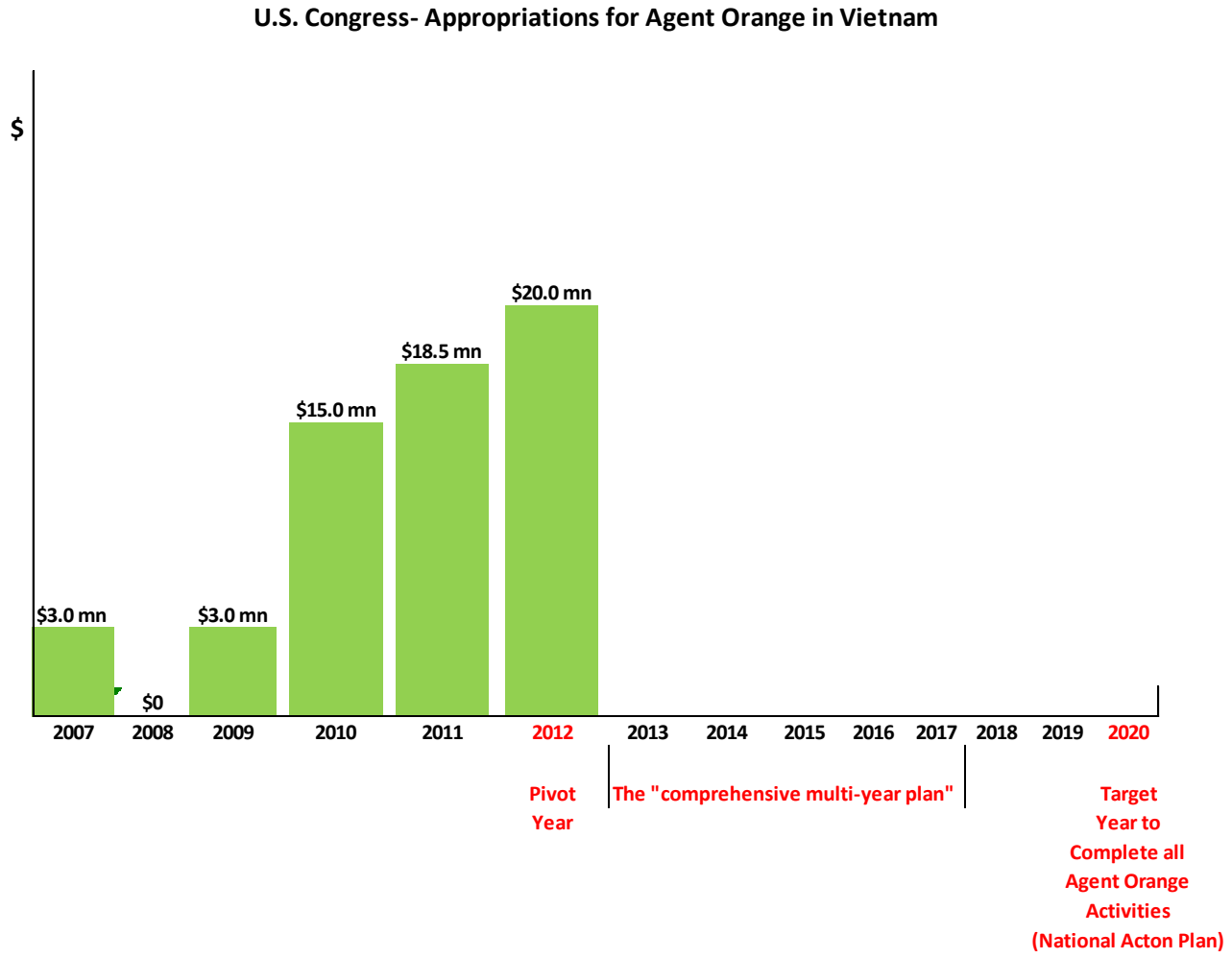
The Vietnam Red Cross established the Vietnam Agent Orange Victims Fund in 1998 and has raised more than $22 million to assist the disabled poor. In 2003, the Vietnam Association of Victims of Agent Orange was set up as an advocacy organization; both groups have chapters nationwide that provide direct assistance to local residents.

The Vietnamese government has spent $6.25 million so far on dioxin cleanup and provides $50 million per year in small monthly allowances for people with disabilities believed to be caused by Agent Orange/dioxin.

Committee 33, in consultation with its member ministries, has prepared a National Action Plan which is now before the Prime Minister for approval. The Plan contains these components:

1. *Clean up the Dioxin Hotspots*
2. *Stop further exposure of people to dioxin*
3. *Support people living near dioxin hotspots*
4. *Upgrade disability services*
5. *Conduct Long-term research studies*

U.S. Government Annual Appropriations



In 2010 cumulative U.S. government appropriations overtook the cumulative total from all other foreign sources and in February 2012 an allocation for Agent Orange activities in Vietnam appeared for the first time in the President's FY2013 Budget to the Congress. The Dialogue Group applauds both the upward trend in the appropriations and recognition in the President's budget request.

Rates of Disability in Vietnam- 2009 Census					
Region	2009 Population	Population with some disability in hearing, vision, movement or cognition (%)	Estimated numbers of people over five with a disability	Proportion of population over five with 'no ability' in either hearing, vision, movement or cognition (per 1,000)	Estimated number over five with 'no ability' in either hearing, vision, movement or cognition
Nationwide	**85,846,997**	**7.8**	**6,100,000**	**4.9**	**420,645**
Northern Midlands & Mountains	11,053,590	**8.0**	884,287	4.4	48,633
Red River Delta	19,584,287	**8.1**	1,586,327	**5.0**	97,920
North & Central coast	18,835,154	**9.7**	1,827,009	**6.5**	122,427
Central Highlands	5,115,135	6.7	342,714	3.8	19,437
Southeast	14,067,361	6.7	942,513	4.0	56,268
Mekong Delta	17,191,470	7.2	1,237,785	4.1	70,483
Heavily Sprayed provinces North & Central Coast					
Quang Tri	598,324	**9.9**	59234	**6.8**	4,066
TT Hue	1,087,420	**8.3**	90256	**6.3**	6,848
Quang Nam	1,422,319	**9.7**	137,965	**7.6**	10,807
Quang Ngai	1,216,773	**10.0**	122,677	**7.2**	8,755
Da Nang	887,435	**9.1**	80756	**6.5**	5,765
Heavily Sprayed Provinces Central Highlands					
Kon Tum	430,133	**7.6**	32690	**4.1**	1,763
Heavily Sprayed Provinces Southeast					
Tay Ninh	1,066,513	6.0	63991	**4.2**	4,477
Binh Phuoc	873,598	5.5	48047	3.7	3,230
Dong Nai	2,486,154	**8.2**	203864	**4.8**	11,933
Binh Duong	1,481,550	4.1	60744	2.7	3,999
Ho Chi Minh City	7,162,864	5.0	365296	3.9	27,932
Heavily Sprayed Provinces Mekong Delta					
Ben Tre	1,255,946	**10.3**	129,362	**5.8**	7,279
Ca Mau	1,206,938	7.1	85,693	**4.5**	5,427
Northern Provinces with many veterans who served in the south					
Thai Binh	1,781,842	**12.4**	122,947	**6.9**	12,289
Ha Noi	6,451,909	6.5	419,374	4.0	25,804
Red signifies provinces with rates above national norm, blue, provinces below the norm.					